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ABSTRACT

Part of a series about research-based programs that show promise for raising student achievement (especially in low-performing schools), this paper describes seven promising reading and language arts programs. Each program shows evidence of high standards, effectiveness, replicability, and support structures. The paper opens with a brief introduction to the series, followed by a short introduction to the seven programs. Concise reports on each of the seven programs follow. An initial grid outlines grades covered, curriculum materials, instructional support/professional development, school reform/restructuring assistance, role of paraprofessionals, cost of implementation, and results/effect size. The body of each report then describes the program's main features, its results, case studies of its effectiveness, and considerations for successful implementation of the program, closing with a list of publications and resources. The seven programs are: (1) "Cooperative Integrated Reading and Comprehension"; (2) "Direct Instruction"; (3) "Exemplary Center for Reading Instruction"; (4) "Junior Great Books"; (5) "Multicultural Reading and Thinking"; (6) "Open Court Collections for Young Scholars"; and (7) "Success for All." A 20-item list of additional reading and a note on program selection methods are attached. (SR)

Building on the Best, Learning from

What Works

Seven Promising Reading and English Language Arts Programs

aft American Federation of Teachers

Building on the Best: Learning from What Works

The AFT has gained many allies in the fight to educate all students to high academic standards. President Clinton has made standards a top priority, and virtually every state has begun to take action. Where standards-based reforms have been in place, progress is being made. Yet there remains sharp debate over the future of public education.

Invoking the specter of failing schools, the advocates of vouchers and privatization are more strident than ever. But their solutions are just the latest additions to the long list of unproven schemes that have plagued our schools. The real hope for improving public education is by expanding the reach of those programs and strategies that have a track record of effectiveness—not by gambling on vouchers or privatization.

We know that our students are as capable as any in the world. We know that, given the standards-based reforms that we advocate—and the research-based strategies that can help students meet those standards—our public schools can match or surpass the accomplishments of the highest-achieving nations.

This series, which grew out of the work of the AFT Task Force on Improving Low-Performing Schools, is an attempt to help advance these reform efforts. It was designed to provide members with detailed background information about the research-based programs that, when properly implemented, show promise for helping to raise academic achievement, especially for struggling students.

While each low-performing school has a somewhat different set of needs and priorities, the AFT believes that no school—especially one that is already foundering—should be expected to find success by reinventing the wheel. Instead, once the school's most pressing problems have been identified, the improvement process should focus on enabling the faculty to choose among those programs and instructional practices that have a solid base of research showing positive results. This series, therefore, aims to help school staff become educated consumers of educational programs and practices.

In recent months, educators, members of Congress, and the general public have devoted increased attention to these issues. We hope that this focus will spur new program development efforts—together with the careful field tests that can help demonstrate the effectiveness of fledgling programs—which should mean that a broader range of good options will soon be available.

Here, we describe seven promising reading and English language arts programs.

Seven Promising Programs for Reading and English Language Arts

Why are some schools effective at educating most students, even those from disadvantaged, high-poverty areas, while others struggle fruitlessly to fulfill their academic mission? How can schools replicate the successes of their more effective counterparts?

Researchers, working for years to answer these questions, have described the characteristics of successful schools—e.g., high expectations for all students; challenging curricula; clear standards and a coherent, focused academic mission; high-quality professional development aligned to the standards; small class sizes, especially in the early grades; an orderly and disciplined learning environment; a supportive and collegial atmosphere; and an intervention system designed to ensure that struggling students can meet the standards. But, while we now know a great deal about *which* reforms are effective, comparatively little is known about *how* to achieve them.

As many schools have found out the hard way, systemic reform is extremely difficult—especially when it must occur simultaneously on many fronts, and is begun without benefit of high-quality curriculum materials, appropriate professional development, or readily available technical assistance. In fact, a number of schools—especially those that are already foundering—have found that lasting improvement is impossible without concrete, step-by-step implementation support.

According to a recent study of efforts to raise academic achievement for at-risk students (Stringfield, et al., 1996), the reform strategies that achieve the greatest academic gains are those chosen and supported by faculty, as well as administrators. Success is also dependent on the existence of a challenging curriculum, and on paying "a great deal of attention to issues of initial and long-term implementation, and to institutionalizing the reforms." This and other studies have also found that schoolwide reforms tend to be more effective than pull-out or patchwork programs, and that externally developed programs—particularly those with support networks from which schools can draw strength and tangible assistance—tend to do better than local designs.

Given these and similar research findings, we developed the criteria below to help identify promising programs for raising student achievement, especially in low-performing schools. You will find descriptions of seven reading and English language arts programs on the following pages. Although each particular program has its own strengths and weaknesses, all show evidence of:

- **High Standards.** The program helps all students acquire the skills and/or knowledge they need to successfully perform to high academic standards.
- **Effectiveness.** The program has proven to be effective in raising the academic achievement levels of "at-risk" students in low-performing schools, based on *independent* evaluations.
- **Replicability.** The program has been *effectively* implemented in multiple sites beyond the original pilot school(s).
- **Support Structures.** Professional development, materials, and ongoing implementation support are available for the program, either through the program's developer, independent contractors, or dissemination networks established by schools already in the program.

Cooperative Integrated Reading and Comprehension (CIRC)

Grades Covered	Grades 2-6.
Curriculum Materials	Teachers' manuals for reading and writing, lessons built around the most widely used basals and anthologies ("Treasure Hunts"),[1] children's literature, and student practice and quiz activities are provided. Additional reading comprehension and writing/language arts instructional materials for basals/novels are also recommended.
Instructional Support/ Professional Development	Teachers' manuals explain how to introduce CIRC to students and provide a sequenced description of CIRC's instructional cycle. Two days of professional development are also provided, with formats that vary according to participants' backgrounds. Follow-up support and technical assistance are available.
School Reform/ Restructuring Assistance	None.
Role of Paraprofessionals	The deployment of classroom paraprofessionals is determined at the school level, although CIRC recommends that support personnel be included in professional development plans.
Cost of Implementation	For the first year of implementation, materials are approximately $240 per class, with costs dropping to about $100 per class for subsequent years. Professional development costs are roughly $800 per day for each trainer, plus expenses. Cost of follow-up training is negotiable.[2] These estimates do not include the cost of basal readers/trade books, which the school is presumed to possess. For a school with 500 students in grades 2-6, this translates into a first-year implementation cost of roughly $6,500.
Results*/Effect Size[3]	Reading comprehension (+.15 to +.99); writing (+.31 to +.47), with the greatest gains shown for bilingual, special education, and the lowest-performing regular education students.[4] **To give a sense of scale, an effect size of +1.00 would be equivalent to an increase of 100 points on the SAT scale or 15 points of IQ—enough to move a student from the 20th percentile (the normal level of performance for children in poverty) to above the 50th percentile (the norm for mainstream students).*

Cooperative Integrated Reading and Comprehension (CIRC) is a thorough approach to reading comprehension and English language arts instruction, with an emphasis on cooperative partner and group activities. Developed in the early 1980s at Johns Hopkins University, CIRC was designed to improve student achievement in reading, writing, and comprehension. It is available as a stand-alone program, in a successful bilingual version (BCIRC), and as a component of the school-

wide restructuring program, Success for All,[5] currently in use nationally in more than 750 schools.

Main Features

Most CIRC learning activities follow a sequenced cycle of instruction: teacher-directed instruction, pair/team practice, individual practice, peer pre-assessment, individual assessment, and team recognition. Although students spend a great deal of time working in cooperative heterogeneous groups, teams, or same-level pairs, activities are also structured to give students clear learning goals for which they are assessed individually.

Grouping and Teaming—Teachers assign students to reading groups based on their achievement levels. In general, the teacher provides direct instruction in reading-related activities to the whole class or to each group separately. For cooperative learning activities, students are also assigned to pairs (or triads) within their reading groups, and then each pair is teamed with a pair from a different reading group. For example, a team might include two students from the top reading group and two students from a lower reading group. Teams receive points based on members' individual performances on quizzes, tests, compositions, and book reports. Team members coach one another to prepare for assessments. Based on the average performance scores of all members within a given week, teams are designated "super teams" (90-100 percent), "great teams" (80-89 percent), and "good teams" (70-79percent).

Basal-related Activities—CIRC learning activities revolve around three principal elements: direct instruction in reading comprehension, story-related activities, and integrated language arts/writing. Reading groups meet each day for about 20 minutes, during which the teacher introduces a story from the basal reader, introduces new vocabulary, sets the context for the story, and engages students in teacher-directed discussion. Following this introduction, students cooperate with partners and teams on a series of prescribed story-related activities.

1) *Partner Reading*—Students first read the story silently, then orally with a partner, alternating paragraphs and correcting each other's errors.

2) *Treasure Hunts*—Students are provided with questions related to the story, called Treasure Hunts, designed to increase comprehension. Students stop during their shared reading to answer questions about setting, characters, problems, and problem resolutions.

3) *Word Mastery List*—Students are given a list of new or difficult words used in the story. Words are practiced out loud with partners to achieve accuracy and smoothness when reading. Partners also pretest one another in spelling exercises.

4) *Word Meaning*—Students learn new or difficult words and phrases by looking them up in the dictionary, practicing them with partners, paraphrasing their meaning, and then demonstrating understanding by creating meaningful sentences using the new vocabulary.

5) *Story Retelling*—After reading a story, partners check comprehension by summarizing its main points for each other.

6) *Story-related Writing*—After finishing the reading assignment, students complete an open-ended writing assignment, responding in a few paragraphs to the story they have just read.

7) *Tests*—Partners help prepare each other for individual assessments through spelling, writing, and other activities, and signing-off on forms indicating the satisfactory completion of each other's work. Approximately every three classes, students are individually tested on comprehension, vocabulary, and oral reading, with scores used to determine individual grades and team rewards.

Direct Instruction in Reading Comprehension—One day per week the teacher uses step-by-step CIRC materials to provide students with direct instruction in a specific comprehension skill, such as identifying a main theme or comparing and contrasting ideas. Each lesson is followed by team activities and games to reinforce the new reading comprehension skills.

Integrated Writing/Language Arts—CIRC students learn to write through a process approach that consists of planning, writing, revising, and editing to create a finished piece. The teacher and team mates provide feedback on written pieces, and peers edit each other's work using editing forms that reflect the grammar, content, and mechanics learned to date. Teachers instruct on specific skills.

Other Elements of CIRC—In addition to classroom activities, students are required to read a book of their choice each evening for 20 minutes, verified by a parent's signature. Every two weeks, students

complete a book report on their independent reading, with points for these reports reflected in their team score.

BCIRC Modifications—Several adaptations have been made to CIRC for use with Spanish-speaking students. BCIRC begins with Spanish language reading assignments (novels and/or basals), then moves to transitional reading materials in English. BCIRC materials, such as Treasure Hunts, have been designed for both Spanish and transitional materials. Students learn BCIRC procedures in their native language, then transfer this knowledge to an English as a second language (ESL) context where they can focus on the English language activities, not the instructional process. While the main elements of CIRC are preserved, a slightly different approach, reflective of ESL practice, is taken. For example, CIRC partner reading begins with silent reading followed by partners reading alternating paragraphs aloud. BCIRC students read aloud with their partners before silent reading, alternating sentences and, later in the semester, alternating paragraphs.

Results

Several studies have found that CIRC students significantly outperform control group students on standardized tests of reading achievement, including measures of reading comprehension, vocabulary, language, spelling, and word analysis. One study found that less than one year of CIRC resulted in significant gains for low-achieving students in vocabulary, word analysis, and total reading, while another showed large positive effects for high achievers. A third study found that special education and remedial reading students who experienced CIRC instruction with their regular education peers performed better on standardized tests than similar students in pull-out programs. These CIRC students had a mean effect size advantage ranging from +.26 to +.90 in reading vocabulary and from +.40 to +.99 in reading comprehension. *(See footnote 3.)*

Studies also indicate that BCIRC is effective in raising the reading achievement of ESL students who are moving from Spanish to English language reading and instruction. There is also evidence that the positive effects are cumulative. One study found that students with one year of BCIRC had an effect size advantage in reading of +.33; BCIRC students with two years of instruction showed an effect size advantage of +.87. This study also found that third graders in BCIRC were three times more likely to meet the district's criterion for leaving bilingual reading and language education than were control group students.

Case Study

Ysleta Independent School District (El Paso, Texas). The most recent study of bilingual CIRC[6] (BCIRC) was conducted in the Ysleta Independent School District, a large district in the city of El Paso adjoining the Mexican border. In the district as a whole, 79.4 percent of students are Hispanic, 26.5 percent are limited English proficient (LEP), and 32.7 percent qualify for Title I services. The study compared students in bilingual programs in three experimental and four control schools, all of which were among the highest poverty schools in the district. All served almost entirely Hispanic student bodies, and all had large percentages of LEP students. Not only did BCIRC students outscore control students in standardized tests of reading achievement but also nine of the twelve BCIRC classes contained students who ranked first, second, or third in schoolwide writing contests, meaning that these bilingual students were outperforming their peers in regular English classes.

Considerations

According to the research, CIRC is an effective program for improving students' reading, comprehension, and writing skills. It is important to note, however, that this is not a beginning reading program. It is designed to begin in grade two, after students are presumed to have acquired basic decoding skills. Schools that are weak in phonemic awareness and phonics instruction might want to consider Success for All, a schoolwide program that includes CIRC in combination with early direct instruction in basic reading skills, as well as several other components.

The successful implementation of CIRC may also require teachers to change not only their teaching methods but also their classroom management and organizational practices to accommodate the group and pair work integral to CIRC. Teachers will

need practical and moral support in their efforts to use the CIRC approach. CIRC developers request that at least two teachers per school undergo training to create a support network during implementation. Developers also strongly recommend that school administrators attend training to develop an understanding of the kind of support necessary for successful implementation. In addition, students will need time and guidance to effectively adjust to working cooperatively with peers. Especially for students who have not experienced productive cooperative peer work, a period of transition should be anticipated.

Publications/Resources

Bramlett, R.K. (1994). "Implementing Cooperative Learning: A Field Study Evaluating Issues for School-Based Consultants." *Journal of School Psychology:* Vol. 32, No. 1.

Calderón, M. et al. (1997). "Effects of Bilingual Cooperative Integrated Reading and Composition on Students Transitioning from Spanish to English Reading," Report No. 10. Center for Research on the Education of Students Placed at Risk.

Robinson, A. (1991). "Cooperative Learning and the Academically Talented Student." Little Rock: University of Arkansas.

Stevens, R.J., Madden, N.A., Slavin, R.E. & Farnish A.M. (1987). "Cooperative Integrated Reading and Comprehension." *Reading Research Quarterly:* Fall.

For more information, contact: Center for Research on the Education of Students Placed at Risk, Johns Hopkins University & Howard University, 3003 North Charles Street, Suite 200, Baltimore, Maryland 21218. **Phone:** 410/516-8896 or 800/548-4998. **Fax:** 410/516-0543. **Internet:** www.csos.jhu.edu/sfa/overcirc.html.

[1] Treasure Hunts are a structured series of cognitive activities designed by CIRC to correspond to novels or basal readers used in the classroom.

[2] Briggs and Clark, 1997.

[3] An effect size is a standard means of expressing achievement gains and losses across studies, showing differences between experimental and control groups in terms of standard deviation. An effect size of +1.00 indicates that the experimental group outperformed the control group by one full standard deviation. To give a sense of scale, this would be equivalent to an increase of 100 points on the SAT scale, two stanines, 21 NCEs (normal curve equivalent ranks) or 15 points of IQ (Fashola and Slavin, 1996)—enough to move a student from the 20th percentile (the normal level of performance for children in poverty) to above the 50th percentile (in range with mainstream America). Because of differences among study designs and assessments, this can only be considered a "rough" measure of comparison. In general, an effect size of +.25 or more is considered to be educationally significant.

[4] Madden et al., 1986; Stevens et al., 1987; Stevens et al., 1989; Calderón, 1990; Calderón et al., 1997.

[5] Success for All and an expansion program, Roots and Wings, are schoolwide restructuring models developed by researchers at Johns Hopkins University.

[6] Calderón et al., 1997.

Direct Instruction (DI)

Grades Covered	Primarily an elementary school (pre-K-6) program, but also used successfully with secondary and adult special education and remedial students.
Curriculum Materials	Curricular materials, daily lessons, and teachers' guides are available for grades K-6 in reading, language arts, spelling, and math; grades 4-6 in expressive writing; grades 3-6 in science; grades 3-12 in corrective reading; and grades 4-12 in corrective math.[1]
Instructional Support/ Professional Development	This is a commercially published program; materials may be purchased by individual grade and subject, as well as in a package suitable for schoolwide implementations. Professional development and implementation support of differing levels of quality can be contracted from various providers for both single-subject and schoolwide implementations. At times, the program's scripted teachers' guides have been used in lieu of—rather than in addition to—adequate professional development, giving rise to criticism of the program for being "teacher proof."
School Reform/ Restructuring Assistance	Limited assistance can be contracted from some providers as part of their implementation-support package.
Role of Paraprofessionals	Trained classroom paraprofessionals are fully integrated into the program, working as instructional aides, one-on-one tutors, and small-group leaders under the direction of certified teachers.
Cost of Implementation	For a schoolwide first-year implementation of the K-5 reading, writing, language, and math curriculum, the estimated costs are $150-$200 per student, including materials, training of staff, and a part-time school facilitator/curriculum coach.[2] A first-year implementation of a stand-alone reading/language arts program ("Reading Mastery") is estimated at $65-$100 per student, professional development not included.
Results*/Effect Size[3]	Language (+.49 to +.84); reading comprehension (+.07 to +.69); math (+.57 to +1.11).[4] ** To give a sense of scale, an effect size of +1.00 would be equivalent to an increase of 100 points on the SAT scale or 15 points of IQ—enough to move a student from the 20th percentile (the normal level of performance for children in poverty) to above the 50th percentile (the norm for mainstream students).*

Direct Instruction (DI) is a highly-structured instructional approach, designed to accelerate the learning of at-risk students. Curriculum materials and instructional sequences attempt to move students to mastery at the fastest possible pace. The oldest version of the program, Distar, was developed in the 1960s as part of Project Follow Through, a massive educational initiative of President Johnson's War on Poverty. Despite its success in raising student achievement levels, Distar was heavily criticized for being too rigid; concentrating too heavily on the basics; and for some vendors' poor implementation practices, such as selling it without support as a "teacher-proof" program. As DI, the original Distar program has been expanded and enriched. Although the early mastery of basic skills is still a key element, the program also addresses students' general comprehension and analytic

skills. While DI has been used successfully as a schoolwide program, the reading and language arts (and sometimes math) portions of the program are frequently purchased for separate implementations. Either way, adequate professional development, ensuring that practitioners understand what the program is and how it works, is essential for successful implementation.

Main Features

Scripted Lesson Plans—Classroom scripts are a hallmark of Direct Instruction; the scripts are written, tested, rewritten, retested—polished in a cycle of classroom field-testing and revision that ends only when trials show that 90 percent of students grasp a lesson the first time around. Without proper orientation, many teachers find this level of prescriptiveness off-putting. The idea, however, is to ensure that even beginning teachers will be successful and to allow veteran educators to fill any holes in their teaching skills. With curricular and pedagogical details presented in precise relationship to each other, the program offers a template of how to teach particular skills and content. It is a template that can be applied to other curricula or modified to better suit the needs of a particular group of students, but only after the teaching methods have been learned to precision.

Research-tested Curriculum—In DI, skills are taught in sequence until students have fully internalized them (what cognitive researchers call "automaticity") and are able to generalize their learning in new, untaught situations. Each lesson sequence is extensively field-tested to determine the most effective and efficient way to lead students to mastery. For example, the first reading and language arts lessons focus on phonemic awareness, which are followed by increasingly complex phonics and decoding lessons, which are followed by lessons that focus on comprehension and analysis of content, etc. With each lesson building on previously mastered skills and understandings, teachers are able to dramatically accelerate the pace of learning, even for the most disadvantaged students. New material is usually introduced through teacher presentations to the whole class or small groups, followed by guided practice and frequent checks for individual student mastery. Once the skill has been learned to the point of automaticity, cognitive studies show that it is transfered from short-term to long-term memory, thus freeing children to apply their learning, attend to content, and move on to progressively more difficult and higher-order skills. Some have criticized the curriculum, particularly reading and language arts in the later grades, for not containing a broad or challenging enough selection of children's literature. The program is easily supplemented, however, especially after students have been helped to master basic decoding skills.

Coaches/Facilitators—Another feature of the program is the use of in-class coaches for implementation support. The coach periodically monitors each classroom and is available to assist individual teachers with any problems, perhaps taking over a part of the lesson to model pedagogical procedures. In some cases, this role has been filled by an employee of the contractor, retained to help with implementation. In some multi-school implementations within a single district, teachers are released from regular classroom duty, given special training, and assigned to assist one or two schools.

Rapid Pace—Because the goal of DI is to move students to mastery as quickly as possible, a large proportion of classroom time is spent on fast-paced teacher-directed instruction, punctuated by rhythmic choral-group and individual-student responses. For instructors, this means a very full work day. For example, the DI program requires teachers to ask 300 or more questions in six small-group sessions each day and to perform reading checks every five or 10 lessons to ensure that all students reach 100 percent mastery. This level of interaction, which produces substantial achievement gains, is made possible by the use of the heavily researched, highly refined scripts.

Achievement Grouping—Common periods for reading and math are established across grades during which students are regrouped by performance level, with the idea that all students will progress at the fastest possible pace and no students will be left behind. In several schools, these groups are reduced in size by assigning half of the class to a paraprofessional who leads the group through guided practice for half of the period, while the teacher introduces new material to the rest of the class, and then changing places. If the program is implemented well, these should not be rigid "tracks," but flexible

achievement groups, with students who are progressing quickly periodically reassigned to a faster group and immediate assistance given to students who are struggling.

Frequent Assessments—Frequent assessments are also built into the program as a means to ensure that all students are reaching mastery, to detect any student who might need extra help before falling too far behind, and to identify students who need to be regrouped.

Results

When this program is faithfully implemented, the results are stunning, with some high-poverty schools reporting average test scores at or above grade level—in a few cases, several grades above. In the 1977 evaluation of Project Follow Through, the achievement results of high-poverty Direct Instruction students were compared to students in nine other early education programs. DI students outperformed control group students and students in the other experimental programs on every academic measure, moving from the 20th percentile (the normal level of performance for children in poverty) to about the 50th percentile (even with mainstream students). In contrast, the achievement results of students in some of the other programs actually *declined* as a result of the intervention. Follow-up studies of students taught by Direct Instruction in the early grades also show enduring benefits. One New York comparison found that more than 63 percent of DI students graduated from college, as opposed to 38 percent of the control group; mean ninth-grade test scores were higher (ES=+.41, reading; ES=+.29, math; *see footnote 3*); retention rates were lower (21 percent vs. 33 percent); and there were fewer dropouts (28 percent vs. 46 percent).

Case Studies

Wesley Elementary School (Houston, Texas). Wesley Elementary has one of the longest, continuous Direct Instruction implementations in the country. It is located in one of Houston's poorest, mostly African-American, neighborhoods and has a student population that is over 99 percent minority and 90 percent eligible for school lunch subsidies—statistics that usually signal low achievement levels. For many years, however, this school has ranked in the top tier of all schools in the state. Much of this success has been credited to the school's 1975 adoption of Direct Instruction. First piloted in a Title I reading resource room, DI was soon in use throughout the school. By 1980, Wesley students had average test scores above the 80th percentile in both reading and vocabulary, outscoring students in comparison schools by more than 40 percentile points. In many of the succeeding years, Wesley's scores have been even higher, with some classes testing up to three years above grade level.

Utah ASAP Project. As a part of Utah's Accelerated Student Achievement Project (ASAP) to improve poor-performing Title I schools, three elementary schools adopted schoolwide DI programs during the 1994-95 school year. The preliminary achievement data are impressive, with students in all three DI schools outperforming more advantaged control school students in two Woodcock-Johnson subtests. After two years in the program, one school moved from last to second place (out of 24 schools) in the district's annual Math Olympics.

Considerations

This is a highly interactive, teacher-intensive approach to education. Teachers and paraprofessionals must be informed about—and prepared for—its fast pace and the structured, repetitive nature of the program.

DI also has a history of problematic implementations. When the program's developer, former preschool teacher Siegfried Engelmann, started designing the curriculum more than 25 years ago, he included fully scripted teachers' guides, believing that they could serve as prototype demonstrations for specific teaching skills. In other words, one design objective was to provide hands-on teacher training *during* class-time, thus reducing start-up costs and at the same time ensuring that all teachers would have the skills necessary to reach the maximum achievement levels. Unfortunately, some marketers and administrators interpreted this to mean that *no* training was necessary, and that teaching skill was inconsequential to the success of the program. DI materials were sold as "teacher proof," leaving administrators who didn't understand the program to impose it in a rigid, dictatorial manner.

Educator horror stories and lower-than-expected achievement levels were the predictable results. In some regions, this has left DI with a tarnished reputation that will have to be clarified and overcome. For any new implementation to be successful, proper orientation and training are vital—not only for teachers and paraprofessionals but also for administrators.

Another frequent criticism is that DI provides so much structure and regimentation that it stifles student and teacher creativity. The student results—both in higher academic achievement levels and elevated measures of self-esteem—should speak for themselves. Teacher focus groups, following DI implementation in Broward County, Florida, are also instructive. Some teachers felt that the "standardized approach actually allowed more creativity, because a framework was in place within which to innovate," and said that they could do more with content once DI had helped students acquire the necessary skills. Other teachers reported that they had initially been resistant, feeling that "even though the students thrived on it, the repetition was boring for the faculty," but, over time, had found ways "to innovate within the repetition, so that they become drawn in as well."[5]

The Broward implementation also incorporated another important feature: advanced training for and assignment of teaching staff to act as full-time "coaches" (facilitators) for the new DI schools. By retaining their status within the bargaining unit, it was made clear that these educators were a resource for the benefit of the teaching staff, not administrators. There was always someone to turn to, on a confidential basis, for advice and assistance. Given the inevitable frustrations, glitches, and misunderstandings that arise when implementing any new curriculum, using new instructional methods, this assistance has proven invaluable.

Publications/Resources

Adams, G.L. & Engelmann, S. (1996). *Research on Direct Instruction: 25 Years beyond Distar.* Seattle: Educational Achievement Systems. 206/820-6111.

Effective School Practices. Journal of the Association for Direct Instruction.

Gersten, R., et al. (1988). "Effectiveness of a Direct Instruction Academic Kindergarten for Low-Income Students." *The Elementary School Journal:* November 1988.

For more information, contact: Direct Instruction Project, University of Oregon, College of Education, 170 Education, Eugene, Oregon 98195, *or* Association for Direct Instruction, P.O. Box 10252, Eugene, Oregon 98195. **Phone:** 800/995-2464. **E-mail:** ADIhome@aol.com. **Internet:** http://darkwing.uoregon.edu/~adiep/.

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[1] These materials are available from the SRA division of Macmillan/McGraw-Hill, 800/843-8855. In addition, several videodisc programs on math, geometry, chemistry, and earth science are available from BFA Educational Media, 800/221-1274.

[2] These costs are based on the budget for the Alliance of Quality Schools in Broward County, Florida, an effort to raise achievement levels of low-performing schools by implementing a DI reading and math curriculum. Estimated per-school costs were as follows: Direct Instruction materials, $35,000; professional development (five days before school and five days during school), $70,000; a trained teacher, assigned to act as a part-time coach/curriculum consultant for the school, $35,600.

[3] An effect size is a standard means of expressing achievement gains and losses across studies, showing differences between experimental and control groups in terms of standard deviation. An effect size of +1.00 indicates that the experimental group outperformed the control group by one full standard deviation. To give a sense of scale, this would be equivalent to an increase of 100 points on the SAT scale, two stanines, 21 NCEs (normal curve equivalent ranks) or 15 points of IQ (Fashola and Slavin, 1996)—enough to move a student from the 20th percentile (the normal level of performance for children in poverty) to above the 50th percentile (in range with mainstream America). Because of differences among study designs and assessments, this can only be considered a "rough" measure of comparison. In general, an effect size of +.25 or more is considered to be educationally significant.

[4] Data from Abt Associates' 1977 evaluation of Project Follow Through and a 1996 meta-analysis of this and more recent studies. See *Research on Direct Instruction: 25 Years beyond Distar*, by Gary L. Adams and Siegfried Engelmann.

[5] "Alliance of Quality Schools Evaluation Report" (August 1996). School Board of Broward County, Florida.

Exemplary Center for Reading Instruction (ECRI)

Grades Covered	Can be used in grades 1-12, with a primary focus on the elementary grades.
Curriculum Materials	This program is designed to work with existing reading/language arts materials. Participating teachers must have 21 required instructional texts for training and subsequent reference,[1] student skills mastery tests, and a folder with record forms for each student.
Instructional Support/ Professional Development	Teachers are provided with a five-day seminar on basic ECRI techniques for reading and language arts instruction, effective scheduling of class time, and methods for diagnosing and correcting reading problems. During the seminar, participants observe demonstrations, teach sample lessons, and pass proficiency tests on the use of new approaches. Intermediate and advanced seminars may also be contracted. In addition, ECRI staff are available to visit implementation sites to demonstrate and/or monitor implementations.
School Reform/ Restructuring Assistance	None.
Role of Paraprofessionals	The deployment of classroom paraprofessionals is determined at the school level.
Cost of Implementation	Many schools have funded the entire cost of ECRI implementations through Title I. For a school of 500 students, start-up costs are estimated at under $7,000, including a $600 per day honorarium for the ECRI trainer and $228 per teacher for required teacher texts. Recurring costs for subsequent years are negligible, except for follow-up professional development, which is optional.
Results*/Effect Size	Reading Comprehension (+.48 to +.90); Vocabulary (+.31 to +1.40).[3] ** To give a sense of scale, an effect size of +1.00 would be equivalent to an increase of 100 points on the SAT scale or 15 points of IQ—enough to move a student from the 20th percentile (the normal level of performance for children in poverty) to above the 50th percentile (the norm for mainstream students).*

The Exemplary Center for Reading Instruction (ECRI) is a research-based, instructional program designed to improve students' ability to read, understand, and communicate in English. Developed in the 1960s by former Utah school district administrator Ethna Reid, the program focuses on pre- and inservice professional development for teachers and is meant to strengthen and supplement, not replace, existing curricula. Teachers are trained in a highly structured, teacher-directed approach to instruction, with a focus on establishing high levels of student mastery, maintaining on-task behavior, and providing ample time for hands-on work and practice.

Although used primarily to enhance reading and English language arts instruction, the program can also be used to bolster instruction across all subject areas. ECRI is now in use in hundreds of schools across the country.

Main Features

Instructional Approach—ECRI employs an integrated approach to teaching reading and English language arts, with a focus on individualized instruction techniques and positive reinforcement. ECRI teachers learn strategies for instruction in: word recognition; vocabulary; study skills; spelling; literature; penmanship; literal, critical, and interpretive comprehension; and creative and expository writing. Teachers are trained in the use of "directives" (scripted lessons), designed to help increase student motivation, make a more efficient use of class time, and introduce multisensory instructional techniques. Skills are taught in a careful sequence that attempts to move students to mastery at the fastest possible pace. Once teachers are comfortable with the ECRI instructional approach, they are encouraged to use its techniques across subject areas.

Teaching Methods—Teachers group students by reading level, and, for 80 to 120 minutes daily, teach the groups using a three-step process: (1) The teacher demonstrates and models new skills for students. In a typical language arts lesson, teachers review previously learned material and introduce new concepts using at least seven methods of instruction, teaching new vocabulary words, one new literature and comprehension skill, one new study skill, and one new grammar/composition skill. (2) The teacher prompts students to check for understanding. Attaining high levels of rapid, accurate responses from all students is a core ECRI strategy, and teachers are taught to diagnose and correct problems quickly when there are errors or no responses. Teachers gradually reduce prompts as students respond correctly without help. (3) During a practice period, students work individually with supervision, and teachers hold individual conferences, test for mastery, and conduct small-group instruction for reteaching skills.

Student Mastery—High levels of student mastery (correct responses of 83 to 100 percent) are expected from all students. Students demonstrate mastery through class participation, small-group discussions, written work, and regular curriculum-based assessments (oral or written), developed by ECRI staff for use with most popular basals and anthologies. Student progress is measured individually, with each student allowed to proceed to the next skills sequence once they have demonstrated mastery of previous material.

Student Responsibility—ECRI requires each student to take active responsibility for and to help track his or her own learning; for example, students schedule their own study time. Students also learn how to diagnose and correct for their own possible errors, and to judge when they are ready to be assessed.

Results

There have been more than 20 years of field tests to demonstrate ECRI's effectiveness in helping raise student achievement in reading and language arts, with benefits for students from all socioeconomic, racial, and ethnic backgrounds. When the program is properly implemented, students' achievement gains can be stunning. One early study, for example, found that the average achievement level of ECRI students in the second grade was in the 95th to 99th percentile range, with Title I students averaging 1.4 to 3.2 years' gain for each year of instruction.[4] Data from several other sites also indicate that ECRI is effective for regular education students, as well as for special needs (bilingual, Title I, remedial) and special education students. In a study that covered eight national sites,[5] at-risk students were found to have made effect size gains on standardized reading tests of roughly +.28 to +1.32 *(see footnote 2)*. There are also indications that ECRI instruction accelerates the achievement of gifted and talented students.

Case Studies

Fennell Elementary School (Yemassee, South Carolina). Fennell Elementary, a small rural school, has a high-poverty student body, with nearly 90 percent of its 300 students qualifying for free or reduced-price lunches. For years, the school suffered from low morale, low expectations, and low student performance. In 1990, the school adopted ECRI as an integral part of a turnaround effort. After only

one year, test scores had improved enough for the state to reward the school with a $12,000 incentive award. Over six years, from 1990-1996, the school's average reading scores rose by 15 normal curve equivalents (NCEs) from 29.96 to 35.5, and language scores rose 18.7 NCEs from 34.6 to 53.3 (*see footnote 2*).

Mission School (Oceanside, California). Oceanside is a primarily blue-collar urban district, with a significant minority population—30 percent Hispanic, 17 percent African-American. Mission School, which draws students from the poorest neighborhoods in the district, gathered achievement data from regular education students in grades 1-7, bilingual remedial students in grades 4-6, and special education students in grades 4-5 after its adoption of ECRI. On average, regular education students' post-test scores on standardized reading assessments increased by 5.79 to 28.63 NCEs. Bilingual remedial students showed average gains of 6.41 to 25.66 NCEs, and special education students gained an average of 8.55 NCEs (*see footnote 2*).

Considerations

At the heart of ECRI's remarkable record of success is an effective and replicable professional development program. Training in basic ECRI techniques extends over a full five-day period, including lecture and practice sessions, preparation of material for classroom use, and simulated teaching. Advanced training is available, but not required. Training in ECRI techniques to teach subject areas other than reading/language arts, such as history or science, is also offered. In addition, for a $600 per day honorarium, ECRI staff are available for periodic site visits to monitor implementations and model specific teaching strategies.

The program's goal is to move each student individually to learning mastery as quickly as possible, utilizing a highly interactive and teacher-intensive approach to instruction. Teachers and paraprofessionals should be aware of—and prepared for—ECRI's fast pace, as well as its use of scripted "directives." It is important to stress, however, that it is not the directives but the proper training in their use and the instructional techniques they embody that account for the program's success.

Because schools can continue to use existing reading and language arts curricula, the costs of ECRI implementation are remarkably low. In addition to the required professional development, schools must purchase 21 teacher texts at a cost of approximately $230 per teacher. In short, this is a cost-effective mastery learning program that, through extensive field testing, has been shown to help raise student achievement across all grade levels.

Publications/Resources

Brandt, R. (1990). "On Teaching Reading: A Conversation with Ethna Reid." *Educational Leadership:* March 1990.

Briggs, K.L. & Clark C. (1997). *Reading Programs for Students in the Lower Elementary Grades: What Does the Research Say?* Austin: Texas Center for Educational Research.

Fashola, O.S. & Slavin, R.E. (1996). *Effective and Replicable Programs for Students Placed at Risk in Elementary and Middle Schools.* Washington, D.C.: Office of Educational Research and Improvement, U.S. Department of Education.

The Reader. Newsletter of the Exemplary Center for Reading Instruction.

Reid, E.R. (1986). "Practicing Effective Instruction: The Exemplary Center for Reading Instruction Approach." *Exceptional Children:* April 1986.

For more information, contact: The Reid Foundation, 3310 South 2700 East, Salt Lake City, Utah 84109. **Phone:** 801/486-5083 or 801/278-2334. **E-mail:** ereid@xmission.com. **Fax:** 801/485-0561. **Internet:** www.xmission.com/~ereid/ecri.htm.

[1] Texts contain teacher directives (scripts), research-based rationale for practices, and proficiency checklists.

[2] An effect size is a standard means of expressing achievement gains and losses across studies, showing differences between experimental and control groups in terms of standard deviation. An effect size of +1.00 indicates that the experimental group outperformed the control group by one full standard deviation. To give a sense of scale, this would be equivalent to an increase of 100 points on the SAT scale, two stanines, 21 NCEs (normal curve equivalent ranks) or 15 points of IQ (Fashola and Slavin, 1996)—enough to move a student from the 20th percentile (the normal level of performance for children in poverty) to above the 50th percentile (in range with mainstream America). Because of differences among study designs and assessments, this can only be considered a "rough" measure of comparison. In general, an effect size of +.25 or more is considered to be educationally significant.

[3] Reid, 1989.

[4] From a 1971-74 study involving 700 Utah students; U.S. Department of Education, undated.

[5] 1990 submission to the Program Effectiveness Panel of the U.S. Department of Education's National Diffusion Network.

Junior Great Books (JGB)

Grades Covered	K-12.
Curriculum Materials	"Read-Aloud" story books for grades K-1, literature anthologies for each student (one volume in each semester for grades 2-6), student activity books (one per semester for each student in grades 3-6), supplementary literature anthologies for grades 7-12 and teachers'/leaders' guides for each grade.
Instructional Support/ Professional Development	The Great Books Foundation requires that teachers in all participating schools complete its two-day "Basic Leader Training." This course provides training in JGB's "Shared Inquiry" method of instruction, modeling, and practice discussions. At additional cost, the foundation also offers two intermediate and three advanced-level workshops on integrating the program into existing curricula, refresher courses, peer coaching and school-site consultations.
School Reform/ Restructuring Assistance	Upon request, limited assistance is available from the Foundation for large-scale school- or district-wide implementations.
Role of Paraprofessionals	The deployment of classroom paraprofessionals is determined at the school level.
Cost of Implementation	Start-up costs include tuition for the basic course at $99 per day for each teacher (discounts are available) and a teachers' manual at $21.95 per teacher per semester. Student anthologies are $10.95 each, and student activity books, available for grades 3-6 only, are $5.95 each (bulk discounts are available).[1] For a first-year implementation at a school of 500, this translates into a cost of less than $30 per student.[2]
Preliminary Results	While research on the achievement effects of this program—especially in its current form—are still preliminary, initial results are encouraging. Several studies indicate that JGB may improve students' comprehension, critical thinking and story recall abilities. *(See "Results" section, below, for details on preliminary studies.)*

Junior Great Books (JGB), a supplementary literature program for grades K-12, was launched in 1962 by the Chicago-based Great Books Foundation, a nonprofit educational organization that promotes reading and discussion of the classics. Originally developed as a home/afterschool activity, JGB was adapted for use in grades 2-6 several years ago and has recently been expanded to cover all grades. Since this is not a beginning reading program, the K-1 anthologies have not been modified to contain decodable text; instead, this portion of the program has been designed to be read aloud to students by adults.

The goal of the program is for students to develop the skills, habits, and attitudes of successful readers, allowing them to develop their analytic and interpretive skills and to read for understanding, as well as pleasure. The JGB program is designed for use in up to five class periods per week for one or two semesters (eight to twelve units per semester). The program is shaped around discussion of literary texts and can be used in conjunction with both reg-

ular and compensatory education programs.

Main Features

Shared Inquiry—"Shared Inquiry" discussion is the cornerstone of the JGB model. Teachers engage students in formal interpretive discussions, encouraging their search for answers to fundamental questions about literary selections. Discussions start with a question that challenges students to think critically about the reading assignment, develop their own interpretations, and support these with evidence from the text. Recall of factual information, as an end in and of itself, is not emphasized. Instead, the teacher guides pupils toward developing their own text-based analyses and understandings by posing provocative, open-ended "how" and "why" questions for which there may be several reasonable answers. Because the answers are never stated explicitly in the text, students must grapple with the author's meaning. Throughout the discussion, the teacher nurtures thoughtful dialogue by building upon the students' responses.

JGB Selections—Junior Great Books anthologies contain a culturally diverse mix of classic and modern literary and expository pieces. There are four ungraded Read-Aloud collections for grades K-1, separate anthologies for both semesters in grades 2-6, and one anthology for use in one semester for grades 7-12. All works are complex enough to support extended interpretive discussions. The pieces (usually short stories or novellas) raise genuine questions for adults and children and are limited in length, so as to allow students to read the text carefully at least twice. Age-appropriate selections have been made for each grade level, since none of the pieces has been modified to contain a controlled vocabulary. Selection of texts is an ongoing process, with JGB staff conducting frequent scans of small-press catalogs and national review periodicals, such as *Horn Book*, for possible additions. Works in translation, as well as foreign-language works that need original translations, are also considered.

Basic Sequence for Working with a JGB Selection—Three components are present in each JGB lesson sequence: reading, oral work, and written work. The basic JGB process is as follows:

1) First, the instructor engages the class in a brief introductory discussion about an issue that will be encountered in the text.

2) The class reads the literary selection for the first time and, in discussion groups, shares questions that arise from the reading.

3) Students read the text carefully a second time, making notes in response to interpretive questions posed in their discussion groups.

4) The class discusses and interprets words/phrases, often with multiple meanings, that are important to the text.

5) The teacher leads students through a Shared Inquiry discussion, the culmination of this process.

6) Students express their personal reactions to a text, writing stories, poems, or essays related to the theme or literary form of the selection.

Results

Although research on the achievement effects of Junior Great Books as a classroom program is still preliminary, several independent controlled studies indicate that English language arts students may benefit from its use. On an assessment of students' critical-thinking abilities, one study found that high-achieving students using Junior Great Books as either a mixed or full-time alternative to basals scored significantly higher than their control group counterparts.[3] Another study, involving Title I summer school students, concluded that JGB had a significant effect on the ability of low-achieving students to recall textual details with accuracy, including information about characters, events and major themes.[4] And a small study involving 30 fifth-grade students found that both high- and low-performing students improved their reading comprehension scores, as measured by a standardized assessment.[5]

Data gathered at individual school sites are also encouraging. For example, one rural elementary school in Texas began using JGB with all students in early 1994. After two years, the percentage of students achieving minimum mastery levels on state reading assessments had jumped by approximately 30 points.[6]

Case Studies

W.E.B. DuBois Elementary School (Chicago, Illinois). A five-year reform initiative for urban schools, sponsored by the Ameritech Foundation, is helping 50 public schools in Chicago, Cleveland, Detroit, Indianapolis, and Milwaukee integrate JGB materials into their curricula. For years, Chicago's W.E.B. DuBois Elementary School had used JGB with only gifted and talented students. After being accepted into the Ameritech project, in the fall of 1994, the program was expanded to accommodate students at all ability levels. By spring 1996, the percentage of third graders achieving reading competency (a score at or above the 50th percentile), as measured by standardized state assessments, had increased from 26 percent to 54 percent. At the same time, the percentage of fourth, fifth, and sixth graders meeting this standard increased by 16 points, 20 points, and 24 points, respectively.

Castleberry Independent School District (Fort Worth, Texas). Castleberry ISD credits the JGB program with a recent jump in the percentage of students passing the state's reading assessment. The district began to phase in its implementation of the program in the fall of 1994, with more teachers becoming certified in JGB every year. Within three years, all of the district's K-8 classes were participating. The district has reported notable student achievement gains, with the strongest results for students who had used the program most consistently. In 1993, prior to implementation, 73 percent of Castleberry's third graders met minimum mastery levels on the Texas reading assessment. By 1997, after three years of JGB, 87 percent of this cohort (now 7th graders) met the minimum standard. In 1993, only 53 percent of the district's fourth graders met the state's minimum mastery levels in reading; as eighth graders in 1997, 87 percent met the standard.

Considerations

Despite the preliminary nature of the research on the classroom effects of Junior Great Books, the program has many obvious strengths. Once designed solely for use with high-achieving students, JGB now offers a means to augment reading and English language arts curricula for students at all achievement levels with rich and challenging literature selections. The program builds students' critical reading and thinking skills through the use of open-ended, interpretive questions that encourage students to explore literature from their own point of view. The program also helps ensure that adequate professional development is provided, restricting bulk sales only to those who have successfully completed JGB's Basic Leader Training course.

It is important to note, however, that JGB has no beginning reading component, and its literature selections for the primary grades do not use decodable text, which can help very early readers build speed and automaticity. Instead, the program has designed its K-1 Read-Aloud anthologies as a supplementary activity for use with beginning readers. Through oral readings and the Shared Inquiry method of instruction, JGB can still help these students to develop background knowledge, vocabulary, and the ability to form and argue concepts—and all students should still be able to make meaningful contributions during class discussions.

As a program designed to supplement—not replace—existing reading and language arts curricula, JGB makes no claim to teach students the fundamentals of writing. The program does, however, provide ample opportunity for students to practice the writing skills that they learn in the primary curriculum, along with the comprehension and interpretive skills they learn through JGB.

The Great Books Foundation advises schoolwide implementation of JGB. The resultant peer support and collaboration are valued by JGB teachers, and students benefit most from experiencing the program consistently from grade to grade. The program also urges the participation of all teachers involved in reading instruction and recommends appointing one teacher in the school as a program coordinator, responsible for scheduling professional development sessions, acting as a liaison with parents' groups, keeping in touch with the foundation, etc. Another recommendation is for schools to provide teachers with weekly instructional release time that they can use to prepare collaboratively for upcoming JGB discussions.

Publications/Resources

Briggs, K.L. & Clark, C. (1997). *Reading Programs for Students in the Lower Elementary Grades: What Does the Research Say?* Austin: Texas Center for Educational Research.

Criscuola, M.M. (n.d.). "Read, Discuss, Reread: Insights from the Junior Great Books Program." *Educational Leadership.*

"The Junior Great Books Curriculum of Interpretive Reading, Writing, and Discussion" (1992). Submission paper to the U.S. Department of Education's National Diffusion Network.

Pogrow, S. & Perrotta, B. (1993). *Middle School Exemplary Curricula: Language Arts.* Issue #4 in the Middle School Curriculum Review Series.

For more information, contact: Great Books Foundation, 35 E. Wacker Drive, Suite 2300, Chicago, IL 60601. **Phone:** 800/222-5870 (and ask for regional coordinator), **Fax:** 312/407-0334. **Internet:** http://www.greatbooks.org.

[1] With early registration, the per-teacher daily costs are reduced to $78. Discounts on curriculum materials are available for large-scale implementation with purchases of $5,000 or more.

[2] Intermediate and advanced workshops are available at $50 per day for each participant.

[3] Bird, Jan (1984). "Effects of Fifth Graders' Attitudes and Critical Thinking/Reading Skills Resulting from a Junior Great Books Program."

[4] Biskin, Hoskisson & Modlin, (1976). "Prediction, Reflection and Comprehension."

[5] Anne Heinl (1988). "The Effects of the Junior Great Books Program on Literal and Inferential Comprehension" (1988). Please note: Since students' pre-implementation test scores were not noted in this study, it is difficult to gauge the educational significance of the reported achievement gains.

[6] "Ingram Students Sustain Significant Improvement on TAAS" (1996). *Junior Great Books in Texas.*

Multicultural Reading and Thinking (McRAT)

Grades Covered	Grades 3-8.
Curriculum Materials	With the exception of teacher resource manuals, there are no special materials. Teachers may use literature commonly found in school libraries and classrooms. McRAT recommends fiction and nonfiction that reflects diverse historical time periods, perspectives, and cultures.
Instructional Support/ Professional Development	McRAT teachers participate in a two-year training program that occurs prior to and simultaneously with implementation. Trainers instruct teachers in how to teach reasoning strategies, develop lessons, and assess student writing. Due to funding constraints and the limited number of trainers, training is limited to 150 new participants per year. Principals and other administrators are encouraged to attend at least three days of the training. Follow-up consultation is available, and teachers can take 6 additional days of training to qualify as trainers.
School Reform/ Restructuring Assistance	None.
Role of Paraprofessionals	The deployment of classroom paraprofessionals is determined at the school level.
Cost of Implementation	The cost of a first-year implementation for a maximum of 25 teachers is projected to be $100 per teacher for nine days of training, materials, and supplies; $500 per day for honoraria for the McRAT trainers; plus travel expenses for three to four trips.
Preliminary Results	While the research on this program is still preliminary, initial results are encouraging. Several studies indicate that McRAT may help to improve students' reading, comprehension, conceptual and writing abilities. *(See "Results" section, below, for more details.)*

Multicultural Reading and Thinking (McRAT) was developed in the mid-1980s by the Arkansas Department of Education, in conjunction with reading specialists and classroom teachers, for use with students at all achievement levels. It is a supplementary program, designed to improve students' reading, writing, and thinking skills by teaching them to read reflectively, develop and supply evidence for their opinions, and communicate ideas effectively in writing. Teachers are trained to infuse culturally diverse themes and materials into existing curricula and to develop critical reading and thinking skills in students that can be used across subject areas and in daily life. As of 1997, the program had been implemented in 102 Arkansas schools and several additional sites around the country.

Main Features

Reasoning/Critical Thinking—McRAT students receive direct instruction in four critical reasoning skills: analysis, comparison, inference/interpretation, and evaluation. Students learn to read for context and subtext, as well as for literal understanding.

Students learn, for instance, to analyze characters' thoughts, feelings, and actions during careful readings of a literary selection, and to form opinions about them that can be defended in writing with support from the text.

Multicultural, Integrated Approach—McRAT students learn explicit strategies in critical reasoning, with a focus on lessons or units of study related to multicultural themes, as well as how to apply these skills across the curriculum. By centering the teaching of thinking skills around a particular cultural theme or piece of literature, McRAT instruction helps students make vital connections among literature, reading, writing, the arts, social studies, and other content areas.

Instructional Process—Teachers conduct a minimum of one McRAT lesson per week during which students receive direct instruction in thinking strategies through teacher modeling, explanation, guidance, and feedback. Each lesson involves a process of inquiry, sustained discussion, and writing that nurtures the development of critical reasoning. Teachers use many strategies to facilitate discussion and thinking, such as story retelling (students relate a story they have read in their own words) and cooperative learning.

Extensive Professional Development—Training in McRAT is provided upon written request from a school official to the Arkansas Department of Education. The program's extensive staff development obliges schools to grant release time to teachers who volunteer to participate. (Grants are available to help defray the cost of teacher release time.) Professional development, conducted by reading specialists, includes a pre-implementation course of study, as well as follow-up sessions simultaneous with implementation, extending over a two-year period. Year one training occurs for a minimum of nine days, scheduled at intervals, plus extra half-days (dispersed throughout the year) for collaborative lesson planning, assessment of student work, and peer coaching. Training during the first year focuses on learning direct instructional approaches for teaching reasoning processes, developing lessons, and evaluating student writing. During the second year, training features more advanced techniques for curriculum development, assessment, and collaboration.

Assessments—Evaluation of academic progress centered on student writing is two-pronged: McRAT teachers use "authentic assessments," such as portfolios of student work, and administer a McRAT-developed writing test. Student portfolios, collections of a student's writing over time, provide organized evidence that teachers use to monitor student progress in reading, writing, and thinking skills and to evaluate success in meeting instructional goals. Portfolios also serve as a solid basis for discussing student progress with parents. The writing assessment is administered to students pre- and post-McRAT implementation. This test requires students to respond to a literary selection by writing essays, using the four McRAT thinking strategies to respond to a problem/question about the selection. Essays are scored according to criteria based on the thinking strategies.

Results

The largest study of McRAT's achievement effects was conducted in Arkansas using program-developed writing assessments, which were scored by independent raters.[1] Essays of McRAT and control students who were instructed using the same curriculum were evaluated for development in the cognitive areas taught through the program. McRAT students showed significant gains in pre- and post-tests and significantly outperformed control students in the areas of analysis, inference, comparison, and evaluation. There have been similar findings from follow-up studies, as well as studies at individual program replication sites, including one in Baltimore, Maryland[2] *(see "Case Studies").*

Unfortunately, there are still little data on McRAT's achievement effects, as measured using independent non-program-developed assessments. Some data are available from three of the pilot sites in Arkansas, where the progress of McRAT and non-McRAT fourth-grade students was measured using MAT6 standardized assessments. In pre- and post-tests, the mean achievement levels of control students declined on all measures, whereas the mean achievement scores for McRAT students increased from approximately the 61st to the 78th percentile in reading comprehension, from the 64th to the 80th percentile in total reading, and from the 68th to the 80th percentile in social studies. Given the small sample size,[3] however, these findings may not be generalizable.

Case Studies

Monticello Intermediate School (Monticello, Arkansas). A 1992 report by the Winthrop Rockefeller Foundation[4] featured McRAT as one of 10 programs in Arkansas schools that had succeeded in raising student achievement. The report profiled Monticello Intermediate, one of the program's six pilot sites. According to the report, "McRAT is a far cry from the drill-and-practice for basic skills testing that has become the norm in too many Arkansas school districts. Yet, interestingly enough, Monticello McRAT students, especially those who start low, show remarkable gains on basic skills as well as other tests."

Golden Ring Middle School (Baltimore, Maryland). Golden Ring, an urban middle school, began implementation of McRAT in June 1995. A writing assessment, developed by the program, was administered to grade 6-8 students, both prior to and after nine months of implementation. Student scores rose significantly in all four thinking skills (analysis, comparison, inference, and evaluation) in all grades, with mean score gains ranging from 15.31 to 28.59 across the thinking skills. Student scores generally increased significantly for the four evaluated thinking skills, regardless of student classification (regular education, gifted, or special education/at-risk), and gains were also consistent regardless of gender or race.

Considerations

McRAT is an intensive staff development program that provides teachers with explicit strategies for improving students' critical reading, writing, and thinking abilities. The program is designed to reflect the research base on cognitive reasoning, effective professional development, literacy, and writing assessment. Although still preliminary, the research results on its achievement effects are also encouraging.

At its core, McRAT represents a long-term strategy to improve the professional development available to school staff. Program developers stress that the extensive two-year training model requires a sustained commitment from participating schools, including teachers, administrators, and support staff. In addition, McRAT strongly advises each school to select a teacher for special training as a local coordinator to monitor implementation quality and coordinate follow-up assistance and peer support. Program developers also urge administrators and principals to attend at least three to five days of training to get a solid understanding of McRAT and the level of support necessary for program success.

It should be noted that McRAT is a supplementary program designed to strengthen and enhance, not replace, the school's existing reading and English language arts program. As such, it neither requires, nor provides, curriculum materials or literature selections for use in the classroom. This may present a problem for teachers working in schools and localities with inadequate library collections, where rich and challenging multicultural literary works are hard to find.

It is also important to note that this program is designed to begin after grade 3, when students are presumed to have acquired basic decoding skills. Students who have not mastered the technical side of reading will not be able to devote their full attention to developing the comprehension and critical reading, writing, and thinking skills that McRAT aims to foster. Therefore, when working with struggling students, McRAT may need to be integrated into an instructional program designed to strengthen the development of basic reading skills.

Publications/Resources

"Beyond the Barriers: Successful Educational Intervention in Arkansas" (1992). Little Rock: Winthrop Rockefeller Foundation.

Fashola, O. & Slavin, R.E. (1997). "Promising Programs for Elementary and Middle Schools: Evidence of Replicability." Johns Hopkins University.

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McRAT News. Newsletter of the Arkansas Department of Education.

Whiteside-Mansell, L. (1996). *McRAT Evaluation for Golden Ring Middle School 95-96.* Little Rock: Center for Research on Teaching and Learning, University of Arkansas.

For more information, contact: Martha Shirrell, Program Manager, Arkansas Department of Education, Room 401B, #4 Capitol Mall, Little Rock, AR. **Phone:** (501) 682-4232. **Fax:** 501/682-4441. **Internet:** http://inet.ed.gov/pubs/EPTW/.

[1] Hoskyn, Cook, Quellmalz & Mundfrom (1993). "Multicultural Reading and Thinking Program," paper presented to the American Educational Research Association.

[2] Whiteside-Mansell (1996)."McRAT Evaluation for Golden Ring Middle School 95-96." Little Rock: Center for Research on Teaching and Learning, University of Arkansas.

[3] Only 39 McRAT and 19 non-McRAT students formed the comparison groups.

[4] "Beyond the Barriers: Successful Educational Intervention in Arkansas" (1992). Little Rock: Winthrop Rockefeller Foundation.

Open Court Collections for Young Scholars (OC)

Grades Covered	Elementary/K-6.
Curriculum Materials	Basal anthologies, literature big books, teachers' guides, teacher toolboxes and other curriculum support materials are available for grades K-6 in reading, writing, and language arts. Open Court's phonics-based beginning reading program may also be purchased separately to supplement existing basal and language arts programs.
Instructional Support/ Professional Development	Teachers' manuals, lesson plans, and one and one-half days of professional development are provided for each part of the curriculum. Upon request, the publisher will also provide follow-up staff development and additional implementation support as part of the terms of purchase.
School Reform/ Restructuring Assistance	None.
Role of Paraprofessionals	Although the deployment of classroom paraprofessionals is determined at the school level, the publisher recommends that paraprofessionals be included in professional development plans.
Cost of Implementation	Costs vary, depending on the size and needs of each school. For a school with 500 students, it is estimated that the costs for a full first-year implementation, including professional development, would average slightly under $5,000.[1]
Results	Independent controlled studies of Open Court have only been conducted for the early elementary grades. In three matched control studies of first and second graders' reading abilities, OC students significantly outperformed peers who were taught using whole language methods or another district-adopted basal series. The most recent study compared the achievement effects of various programs in Title I classrooms. OC Title I students' mean score on word identification and comprehension tests was found to be close to the national norm (46 percent), whereas the mean score for students using a standard curriculum was in the lowest academic quartile (23 percent).[2]

Open Court Collections for Young Scholars (OC) is a commercially published elementary school reading and writing program that uses a balanced approach to the teaching of reading, including systematic direct instruction in phonemic awareness and phonics, grade-appropriate decodable text, and a variety of language arts materials. The OC phonics-based program for the primary grades, which has been available for a number of years, has been expanded to include interesting K-6 literature collections that are notable for the number of classic and award-winning contemporary authors they contain.

Main Features

Early Reading Program—The Open Court program for beginning readers uses explicit teacher-directed instruction to teach alphabetic and phonemic awareness, phonics, comprehension, and writing. Phonetic principles are reinforced through sound/spelling cards, alliterative stories, and practice reading materials that contain a large number of words and elements that have been taught through the program. Blending is regarded as the key decoding strategy, with teachers writing the letters for all sounds in a word and students saying the sounds, then blending the sounds together to read the word. Dictation, spelling, and word-building games are used to further connect phonics to writing. Literature is introduced to students through reading aloud from big books, and by mid-year, children are independently reading literature from anthologies. Workbooks are introduced after all sound-symbol relationships have been presented, usually in the beginning of first grade. Writing instruction is provided in individual and small-group formats.

Language Arts—Open Court introduces the reading of authentic literature into the classroom through big books beginning in kindergarten. By the middle of first grade, students are able to read literature independently. Literature collections throughout the grades are organized around issue and subject themes, such as bravery, friendship, astronomy, ancient civilizations, and the American Civil War. Students engage in reading and writing activities that focus on comprehension, vocabulary, and exploring ideas and concepts. The program includes more than 100 full-length trade books, science and social studies units in every grade, and selections from a large number of award-winning fiction and nonfiction writers. The literature selections also feature many classic works and authors and have a strong multicultural emphasis. One grade 6 unit, for example, features works by William Shakespeare, Hans Christian Andersen, William Wordsworth, Henry Crow Dog, and Langston Hughes, among other authors.

Instructional Support—Publisher-provided professional development usually consists of a half-day orientation and a minimum of one day of grade-level training, including an introduction to materials, discussion of a lesson, and modeling of specific phonemic awareness, phonics, and reading comprehension instructional strategies. Follow-up visits six to eight weeks into the school year usually include classroom observations, demonstration lessons, and debriefing meetings with teachers. Additional implementation support, training sessions, and summer institutes are available. The core program also includes teachers' manuals, teacher and student toolboxes, phonemic awareness and phonics instruction kits, and other materials to help guide instruction.[3]

Results

Not only is Open Court designed to reflect the research base on effective reading instruction, but it is also one of the only commercial reading and language arts programs with independent field tests demonstrating its effectiveness. Note, however, that student achievement data for this program is limited thus far to the K-2 curriculum, although preliminary indications are good for the entire program.

The most recent study, conducted by researchers at the University of Houston, looked at the effects of three programs on the reading achievement of economically disadvantaged first and second graders. The programs were Open Court, whole language (WL), and whole language plus a phonics program (WL/P). All participating teachers received 30 hours of inservice training. Open Court training was conducted by the publisher; WL/P training was conducted by research staff; some WL teachers were trained by research staff; and a control group of WL teachers were trained by regular district trainers. In spelling tests, OC students significantly outperformed both whole language groups. As measured by Woodcock-Johnson assessments, OC students significantly outscored students taught through the other instructional methods in reading and comprehension tests.[4]

A similar study, conducted in California,[5] compared the achievement of first-grade students taught with OC's explicit phonics approach, students taught phonics implicitly in the context of the language arts program, and a control group taught using just the standard curriculum. After one year, students' reading achievement was measured using three different assessments, including the SAT and three SAT subtests. OC students outscored students

in the other two groups on every measure. While the difference in scores between the two phonics approaches was not significant, OC students significantly outscored the control group on all SAT measures, with a total reading mean score slightly above the national average (52.2 percent).

A recent study on the reliability of standardized achievement measures[6] compared the reading scores of two groups of second-grade students, one taught with Open Court, the other with a popular commercial basal series. Both sets of students were tested on nine subtests of four different standardized assessments. Although the study demonstrated an alarming variability among the assessments, the researchers also found that OC students outscored control group students on every single measure. On six of the nine subtests, the mean score advantage of the OC students was educationally significant.[7]

Case Studies

PS 161 (Brooklyn, New York). PS 161 is a K-5 school located in the heart of Brooklyn's Crown Heights neighborhood. It has a student population of 1,370, of whom over 90 percent are African-American and 97 percent qualify for free lunch. Once one of the district's bottom-tier schools, PS 161 started to turn around about 10 years ago, after the school decided to make reading instruction more consistent. The faculty began a schoolwide implementation of Open Court, supplemented by other literacy-related materials and activities. By 1996, 93 percent of the school's fifth graders were scoring above the state's minimum level in writing tests, slightly above the state average and 17 points above the average for schools with similar demographics. In reading assessments, 80 percent of third graders scored above the state's minimum level, compared with 47 percent in similar schools and 79 percent in all state schools. In addition, 38 percent of PS 161's third graders were found to be reading at the "mastery" level, 10 points above the statewide average.

Heights Elementary School (Laredo, Texas). Heights Elementary is a small school. Of the 210 students in grades 1-5, 98 percent are Latino, 55 are percent limited English proficient, and 70 percent qualify for free or reduced price lunch—statistics that would usually signal low achievement levels. In 1997, however, Heights Elementary was named one of the state's 12 "spotlight schools," largely on the strength of its reading scores—with over 85 percent of third and fourth graders passing statewide reading tests. Some of this success has been credited to the school's implementation of the phonics portion of Open Court, in combination with the use of another basal series and other literacy materials.

Considerations

Open Court Collections for Young Scholars strikes a workable, balanced approach to reading instruction reflecting the research base on the need for both direct instruction in basic skills and literature-based instruction that can help build background knowledge and improve student comprehension and vocabulary. The program is best known for its primary grade curriculum, incorporating explicit instruction in phonemic awareness and phonics, which has been available for a number of years and for which convincing achievement data exists. This program extends through grade 6 to encompass instruction in challenging and engaging children's literature, including many classics as well as a large number of multicultural selections. There is less research, however, on the efficacy of this part of the program.

As with any new instructional program, teachers and paraprofessionals need adequate professional development to implement the program well. In particular, low-performing schools may find the publisher's standard one and one-half days of training are not enough to meet their needs. This is especially the case since the teachers' manuals for the beginning reading program can be difficult to follow. All schools should therefore be aware that additional assistance is available upon request, at no additional charge. For example, when several Title I schools in Houston recently implemented Open Court as a part of a controlled study *(see "Results" section above)*, a full 30 hours of professional development was provided.

Students' achievement scores provide strong evidence that this is a highly effective program when implemented well. As such, it should be considered by any elementary school, across the demographic range, that needs to boost reading scores and student achievement levels.

Publications/Resources

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For more information, contact: Open Court, SRA/McGraw-Hill, 1221 Farmers Lane, Suite C, Santa Rosa, CA 95405. **Phone:** 1-888/SRA-4KIDS (toll free). **Internet:** www.sra-4kids.com/home.html (search by "reading" and "Open Court").

[1] These figures have been extrapolated, based on SRA/ McGraw-Hill's published "Implementation Proposal" for California.

[2] Foorman, Francis, Beeler, Winikates & Fletcher (1997). "Early Interventions for Children with Reading Problems: Study Designs and Preliminary Findings." *Learning Disabilities.*

[3] "Reading Programs for Students in the Lower Elementary Grades: What Does the Research Say?" (1997). Austin: Texas Center for Educational Research.

[4] Reading mean scores (OC 44%, WL/P 32%, WL/experimental 27%, WL/control 17%), Comprehension mean scores (OC 46%, WL/P 35%, WL/experimental 31%, WL/control 21%); see footnote 2.

[5] Thomas J. Barrett (1995). "A Comparison of Two Approaches to First-Grade Phonics Instruction in the Riverside Unified School District."

[6] Webster & Braswell (July 1991). "Curriculum Bias and Reading Achievement Test Performance." *Psychology in the Schools.*

[7] In general, an effect size of +.25 or more is considered to be educationally significant.

Success for All (SFA)

Grades Covered	Elementary/K-6.
Curriculum Materials	Curriculum guides, curriculum materials, children's literature, daily lesson plans, and teacher manuals are provided for grades K-6 in reading, writing, and language arts.
Instructional Support/ Professional Development	Through lesson plans and teachers' manuals, specific instructional guidance is provided for each part of the curriculum. Professional development is also provided as part of the basic cost of the program, with pre- and post-implementation workshops for all instructional staff. In addition, advanced training is provided for the principal and a "program facilitator," who works as an on-site coach/coordinator in the school.
School Reform/ Restructuring Assistance	This is a schoolwide restructuring program that affects curriculum, pedagogy, scheduling, resource allocation, professional development, and family support services. To help ensure success, a clear commitment on the part of administrators and a secret ballot endorsement by at least 80 percent of the school staff are required parts of the application process. Once accepted, schools receive implementation assistance and training, as well as continuing support through a "network" with researchers and other SFA schools.
Role of Paraprofessionals	To some extent, the deployment of classroom paraprofessionals is determined at the school level. SFA recommends their use as classroom aides in pre-K and K and as one-on-one tutors working under the direction of certified teachers with students with mild reading difficulties.
Cost of Implementation	Most Success for All schools have funded the program as a Title I schoolwide project. For a school with 500 students, SFA estimates the first-year implementation costs to be $90-$100 per student for training, materials, and follow-up visits.[1] If the facilitator, tutor, and other SFA-related staff positions cannot be filled by a redeployment of existing staff, the costs related to the hiring of additional staff may range between $450 to $1,100 per student.
Results*/Effect Size[2]	Reading (+.34 to +.82); Word Attack (+.51 to +4.22).[3] ** To give a sense of scale, an effect size of +1.00 would be equivalent to an increase of 100 points on the SAT scale or 15 points of IQ—enough to move a student from the 20th percentile (the normal level of performance for children in poverty) to above the 50th percentile (the norm for mainstream students).*

Success for All (SFA) is an elementary school restructuring program, designed to deliver intensive academic assistance to student populations at risk of school failure. Developed in the mid-1980s by Dr. Robert Slavin, a researcher at Johns Hopkins University, SFA will be in place in more than 750 (mostly high-poverty, Title I) schools across the country, as of Fall 1997.[4] Because learning to read has been shown to be critical for academic success, the program was built around research into

the most effective ways to teach reading and strategies to catch and correct problems early.

Main Features

Reading and Writing Program—The core of Success for All is a reading curriculum that incorporates research-based instructional practices, including cooperative learning. In kindergarten and grade 1, the program emphasizes reading readiness and the development of oral language. Students work on phonemic awareness activities to help develop auditory discrimination; become familiar with books, letters and phonetically regular words; and listen to, retell, and dramatize children's literature and thematic units based in science and history. When students reach the primer level, they use an adaptation of another Johns Hopkins University-developed program: Cooperative Integrated Reading and Composition (CIRC). In addition to receiving direct instruction from teachers in reading comprehension and writing, SFA and CIRC students engage in cooperative learning activities built around oral reading in pairs, structured discussion, summarization and retelling of stories, vocabulary building, decoding practice, and story-related writing. Detailed teachers' manuals and support materials, through grade 6, are built around children's literature and the most widely used basals and anthologies. Classroom libraries of trade books at the students' reading level are provided to each teacher, along with support materials.

Reading Groups—Although heterogeneous, age-grouped classes are conducted most of the day, students in grades 1-3 (and sometimes 4-5 or 4-6) are regrouped for reading. A common 90-minute reading period is established across grades, during which students are regrouped by reading performance level. By establishing a common period and using all certified staff (including tutors, librarians, art teachers, etc.), class size for these groups is substantially below the size of homeroom classes. By eliminating the need for multiple reading groups, direct instruction time is increased and student busywork is decreased, thus accelerating the pace of learning.

Frequent Assessments—Every eight weeks, reading teachers assess student progress using personal observations and curriculum-based and formal measures. Teachers use the results of these assessments to identify students who are falling behind and need extra help and tutoring, as well as those who are progressing quickly and should be placed in a higher performance group. At the same time, teachers attempt to identify students who need other types of assistance, such as family interventions or screening for hearing or vision problems.

Tutors—Another important element in the program is the use of one-on-one tutoring, the most effective form of instruction for students with reading problems. Tutors are certified teachers who are reading specialists or have experience teaching Title I or special education students. Trained paraprofessionals may also be used for students with less severe reading difficulties, under direction of the certified tutor. Children with reading difficulties are tutored during a 20-minute period during the day when neither reading nor math is being taught in class. To prevent problems from developing and to minimize the number of older students needing remediation, first-grade students are given priority for tutoring. Certified tutors also act as regular reading teachers during the 90-minute reading periods.

Program Facilitator—Another key element of the program is the use of a program facilitator at each school. A member of the school staff who is released from regular classroom responsibilities, the facilitator works (with the principal) to oversee the details of implementation, including scheduling changes and professional development arrangements. The facilitator also monitors the implementation of the curriculum in the classroom and is available to assist/coach individual teachers and tutors through any problems. He or she also helps deal with student behavior problems and acts as a liaison between the staff and the family support team.

Training—The professional development provided by Success for All includes a brief orientation and training period, in-class coaching and assistance, and periodic inservice workshops and discussion groups. In the first year of implementation, three days of inservice training are provided for all teachers, tutors, and classroom paraprofessionals at the beginning of the school year. The initial training for both the facilitator and the principal is more comprehensive, usually a week-long training session at Johns Hopkins University. Throughout the year, researchers make frequent site visits during which

they make classroom observations, meet with staff, and conduct inservice training. Facilitators also arrange sessions for staff to share information, discuss problems and solutions, and collaborate on the needs of individual children.

Family Support Team—The family support team consists of the facilitator, parent liaison (if any), counselor (if any), principal or vice principal (if any), and any other staff the school deems appropriate. The team promotes parental involvement in the school—providing information, organizing school-related activities, and conducting workshops for parents. It also intervenes to help solve behavior and other problems, acts as a resource for teachers and parents, and helps coordinate services with community-based health, social service, and juvenile justice agencies.

Results

Not only is Success for All designed around research into effective teaching methods, but the program itself has an extensive body of research demonstrating its effectiveness. Statistically significant positive effects have been found on every measure from grades 1 to 5, with especially large gains for students most at risk for failure. These effects have also been shown to be cumulative: While first-grade SFA students are about three months ahead of matched control students in reading, by the fifth grade, they outscore control students by an average of a full grade level. Bilingual students and students in the lowest quartile of their grades average even higher gains, with effect size changes of +1.00 or more (*see footnote 2*).

The program has also been found to cut special education placements in half, on average, and one study found that the program eliminated the black-white achievement gap.

Case Studies

Baltimore, Maryland. The birthplace of Success for All, Baltimore has five of the longest-running SFA implementations in the country. The schools are located in inner-city, predominantly African-American neighborhoods, with between 75 percent to 96 percent of students eligible for school lunch subsidies. On average, SFA schools outperform control schools in the city at every grade level. For example, CTBS scores for SFA and control schools were collected during the 1992-93 school year. By the fifth grade, SFA students were found to be 75 percent of a grade equivalent ahead of control students on the CTBS Total Reading assessment. Evaluations have also found positive effects on attendance and retention rates.

Houston, Texas. In Houston, a recent experiment in the large-scale replication of Success for All has also shown positive results. What began in 1993 as a special summer school program, offered by the school district, was quickly expanded into a reform option for all elementary schools. By the 1994-95 school year, more than 70 schools had chosen to participate. Unfortunately, with the quick start-up, many schools did not receive the necessary training and materials before the beginning of the school year. Despite these widespread implementation problems, the Houston experiment appears to be working. According to a preliminary study by the University of Memphis,[5] SFA's median first-year results varied from ES=+.15 to +.33 (*see footnote 2*) in Houston, largely depending on whether all of the program's features had been faithfully implemented. Although lower than the achievement gains reported in previous studies of smaller-scale implementations, these results still demonstrate a statistically significant improvement.

Considerations

Although the research on Success for All is overwhelming in proving its effectiveness, any successful implementation will require a substantial commitment in funding, staff time, and school restructuring work. Because this program was developed for, and is primarily used by, high-poverty Title I schools, some have the idea that the program is primarily remedial (interpreted to mean "dumbed down"). The truth, however, is that SFA's developers went out of their way to strike a workable balance between challenging content and the acquisition of basic skills, incorporating everything from guided skill instruction to basals to children's classics such as *Charlotte's Web*. As such, it should be considered by any elementary school, across the demographic range, that needs to boost reading scores and student achievement levels.

Although the costs of implementation are high, the reallocation of existing Title I funds and the redeployment of existing staff can make it affordable, even in high-poverty schools and districts. For example, a school that already has four Title I teachers could train one to be the SFA facilitator, while the other three become reading teachers/tutors.

Another tradeoff arises from Success for All's intensive focus on reading in the primary grades. This could result in less money for other programs and activities, and more resources allocated for grades 1-3 versus grades 4-6. But while some of these trade-offs may be difficult, research and common sense tell us that the best, most cost-effective academic intervention program is one that prevents students from falling behind in the first place. For long-term success, it is critical that young students be provided with a firm academic foundation. The ability to read with ease and comprehension is the bedrock upon which that foundation is built. This program has proven it can help schools accomplish this goal.

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For more information, contact: Center for Research on the Education of Students Placed at Risk, Johns Hopkins University, 3505 North Charles Street, Baltimore, Maryland 21218. **Phone:** 800/548-4998. **Fax:** 410/516-8890. **Internet:** http://successforall.com.

[1] Per-pupil costs may be lower in multischool implementations.

[2] An effect size is a standard means of expressing achievement gains and losses across studies, showing differences between experimental and control groups in terms of standard deviation. An effect size of +1.00 indicates that the experimental group outperformed the control group by one full standard deviation. To give a sense of scale, this would be equivalent to an increase of 100 points on the SAT scale, two stanines, 21 NCEs (normal curve equivalent ranks) or 15 points of IQ (Fashola and Slavin, 1996)—enough to move a student from the 20th percentile (the normal level of performance for children in poverty) to above the 50th percentile (in range with mainstream America). Because of differences among study designs and assessments, this can only be considered a "rough" measure of comparison. In general, an effect size of +.25 or more is considered to be educationally significant.

[3] Slavin, Madden, Dolan, Wasik, Ross, and Smith, 1994; Slavin, Madden, Karweit, Liverman, and Dolan, 1990. Note: Reading results data are pooled scores from all interventions, 1988-1993, with scores rising through each successive year of implementation.

[4] **Roots and Wings**, a program to supplement the Success for All reading and language arts curriculum with curricula in math, social studies, and science for grades K-6, has also been developed through New American Schools Designs. Preliminary results are promising.

[5] Nunnery, Ross, and Smith, 1996.

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Note on Program Selection Methods

The purpose of this series of program profiles is to provide background information about research-based programs that, when properly implemented, show promise for raising student achievement significantly. For this effort, we solicited program recommendations from experts in the field and reviewed the published records of the National Diffusion Network, materials found through the library of the Office of Educational Research and Improvement, and recent research reviews. We then attempted to obtain descriptive information and copies of all published evaluations—including study designs, field test data, and replication histories—from the developers of all programs, thus identified.

All available materials were then reviewed against the following criteria:

- When properly implemented, the program helps students acquire the skills and/or knowledge they need to successfully perform to high academic standards.
- The program has been effective in raising academic achievement levels, especially for "at risk" students, based on *independent* evaluations.
- The program has been effectively implemented in multiple sites beyond the original pilot school(s).
- Professional development, materials and ongoing implementation support are available for the program, either through the program's developer, independent contractors, or dissemination networks established by schools already in the program.

The standards by which program effectiveness was gauged are as follow:

- Evaluations demonstrate that the program can help produce educationally significant student achievement gains, as measured in effect sizes. An effect size is a standard means of expressing achievement gains and losses across studies, showing differences between experimental and control groups in terms of standard deviation. An effect size of +1.00 indicates that the experimental group outperformed the control group by one full standard deviation. To give a sense of scale, this would be equivalent to an increase of 100 points on the SAT scale, two stanines, 21 NCEs (normal curve equivalent ranks) or 15 points of IQ (Fashola and Slavin, 1996)—enough to move a student from the 20th percentile (the normal level of performance for children in poverty) to above the 50th percentile (in range with mainstream America). Because of differences among study designs and assessments, this can only be considered a "rough" measure of comparison. In general, an effect size of +.25 or more is considered to be educationally significant.
- Ideally, evaluations include findings from matched comparison or large randomly assigned control group studies—or, failing this, compare the standardized test gains of program students to appropriate state- or nationally normed samples.
- Evaluations include data from third-party researchers using independently developed assessments, not only from program developers using program-designed tests.
- Evaluations include and/or compare data from multiple replication sites.

For programs in each category—in this case, reading and English language arts programs—profiles were prepared only for those that came closest to meeting the above criteria. It should be noted, however, that there may be additional programs that qualify for inclusion but for which we were unable to locate adequate data; we hope to be able to include additional profiles for any such programs in future editions. It should be noted, as well, that in an effort to present a broader selection of programs, a few were included that did not quite meet the above criteria. Where this is the case, the preliminary nature of the data has been noted in the profile text.

Finally, both as a courtesy and as a check for accuracy, a draft of each program profile was sent to the appropriate publisher or developer for review. Any new information provided to us during this review process has been incorporated.

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